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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,708

03/01/2006

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Q92887

8999

23373 7590 01/29/2010  
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EXAMINER

MCGRAW, TREVOR EDWIN

ART UNIT

PAPER NUMBER

3752

NOTIFICATION DATE

DELIVERY MODE

01/29/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/566,708	<b>Applicant(s)</b> HELIE ET AL.	
	<b>Examiner</b> Trevor E. McGraw	<b>Art Unit</b> 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “set of spray head assemblies” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “end wall” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 8 and 10-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Marelli et al (US 5,224,471).

In regard to Claim 1 Marelli et al teach a fluid spray head assembly that comprises a fluid spray head (column 2, line 57) has an expulsion channel (11) with a spray orifice (8) and a spray profile (14, 15, 16 of "10" create the spray profile; see Figure 6) are formed in an end wall (3) of the spray head (column 2, line 57) where non radial spray channels (16) are formed to the swirling chamber (12; column 3, lines 42-53) which opens to a spray chamber (13; 12 opens into 13; "opened is being interpreted as communicating with) that is disposed upstream of the spray orifice (8) where an insert (column 3, lines 28-35) forms an internal nozzle (see where a nozzle effect occurs as fluid flows from "4" past the insert where an area is reduced in size from larger to smaller) and is introduced through the inside of the spray head (see column 2, line 57 and column 3, lines 28-35) being disposed in the expulsion channel (11) so as to form a cover for the spray profile (14, 15, 16 of "10") where the central axis (X) of the insert (9, 10; see also column 3, lines 28-35) is substantially identical to the central axis (Y) of the expulsion channel (11; see Figure 3 where the insert is bounded by three flat walls) and where the spray head comprises centering means for centering the insert (see where centering means are three flat walls of "3" which center "9" of the insert in Figure 3) where the expulsion channel (11) further includes the centering means (see flat walls of "3" in Figure 3) for centering the insert (9, 10; see also column 3, lines 28-35), and in

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that the centering means are formed in the proximity of the spray profile where the central spray chamber (13) is between the spray orifice (8) of the spray head (column 2, line 57) and the insert (9, 10; see also column 3, lines 28-35) wherein the insert (column 3, lines 28-35) is formed separately from the spray head (column 2, line 57).

In regard to Claims 2-4, Marelli et al also teach where the centering means comprises at least one projection (see flat surface of "3" in Figure 3) and preferably three, the diameter of the inscribed circle defined by the projections are substantially identical to the diameter of the insert (9, 10; see also column 3, lines 28-35), the expulsion channel (11) includes the three flat surfaces (as shown in Figure 3; see where "11" has flat surfaces) that are distributed symmetrically about the channel (11) where the flat surfaces co-operate with the insert (9, 10; see also column 3, lines 28-35) so as to center it relative to the expulsion channel (11) and the access of the expulsion channel (11) to the spray channels (16) are formed between the projections or flat surfaces (see the access openings of "11" bounded by the flat surfaces of "3" in Figure 3).

In regard to Claims 8 and 10, Marelli et al further teach where the spray head of the spray head assembly can be manufactured from a common mold cavity. It is noted that Claim 8 is a product by process claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (See MPEP 2113). Marelli et al is a fluid dispenser device which is characterized in that it includes a spray head

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assembly of the present invention (as recited in Claims 1; see entire disclosure of Marelli et al.).

In regard to Claim 11, Marelli et al additional teach a fluid spray head assembly that comprises a spray head (column 2, line 57) having an internal nozzle(see where a nozzle effect occurs as fluid flows from "4" past the insert where an area is reduced in size from larger to smaller) comprising an expulsion channel (11) with a spray orifice (8) and a spray profile (14, 15, 16 of "10" create the spray profile; see Figure 6) are formed in an end wall (3) of the internal nozzle, the spray profile (14, 15, 16 of "10") comprising spray channels (16) that open out to a central spray chamber (13; 12 opens into 13; "opened" is being interpreted as communicating with) that is disposed upstream of the spray orifice (8) where an insert (column 3, lines 28-35) is disposed in the expulsion channel (11) so as to form a base surface for the spray profile forming the internal nozzle and the spray head (column 2, line 57) is configured with an upstream opening to permit the insert to be introduced inside of the spray head (see column 2, line 57 and column 3, lines 28-35) from the upstream opening in the spray head (column 2, line 57), and wherein, a central axis of the insert (9, 10) is substantially identical to a central axis of the expulsion channel (11; see Figure 3) and at least one radially projection extending from the inside wall of the expulsion channel (11) and abutting the insert (9, 10) so as to substantially align the central axis of the insert (9, 10) with the central axis of the expulsion channel (11) wherein the central spray chamber (13) is between the spray orifice (8) of the spray head (column 2, line 57) and the insert (9, 10) where the insert (9, 10) is formed separately from the spray head (column 2, line 57).

In regard to Claims 12-19, Marelli et al also teach where the spray channels (16) are non-radial, where at least two additional projections extending from the inside wall of the expulsion channel (11) and abutting the insert (9, 10) so as to substantially align the central axis of the insert with the central axis of the expulsion channel (11) and where the diameter of an inscribed circle defined by the three projections is substantially identical to a diameter of the insert (see Figure 3 where the center axis and diameters are substantially identical due to abutting arrangement of the projections from "3" with the insert "9" and "10") and the three projections are flat surfaces distributed symmetrically about the central axis of the expulsion channel where access from the expulsion channel (11) to the spray channel (16) is between the projections (flat wall surfaces of "3") and the spray head (column 2, line 57) is coupled to a dispensing member (see column 2, line 67 thru column 3, line 3).

With further regard to Claim 19, Marelli et al teach where the centering means has three projections, the diameter of the inscribed circle defined by the projections being substantially identical to the diameter of the insert (9, 10).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



Claims 5-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marelli et al (US 5,224,471).

In regard to claims 5-7 and 9, Marelli et al as taught above discloses the claimed invention except for the following: a central axis of the insert being offset from the central axis of the expulsion channel by a distance of less than 0.08 mm, and preferably less than 0.03 mm; a spray chamber having a diameter of 1 mm; a spray orifice having a diameter of 0.3 mm; and the standard deviation of the offset between the central axis of the insert relative to the central axis of the expulsion channel being less than 0.05 mm and preferably less than 0.02 mm.

It would have been an obvious for having ordinary skill in the art at the time the present invention was made to try to offset the central axis of the insert from the central axis of the expulsion channel by a distance of less than 0.08 mm, and preferably less than 0.03 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. and it appears that the invention would perform equally well with the central axis' not being offset from one another where offsetting the central axis' would provide a benefit that would ensure a spray would be directed past the projections through the expulsion channel.

It would have also been an obvious matter of design choice to provide for a spray chamber having a diameter of 1 mm and a spray orifice having a diameter of 0.3 mm as providing for such dimensions of the spray chamber and spray orifice, since it has been held that where the general conditions of a claim are disclosed in the prior art,

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discovering the optimum or workable ranges involves only routine skill in the art. and it appears that the invention would perform equally well if the dimensions of the spray chamber of 1 mm and the spray orifice of 0.3 mm were larger where the sizing of such benefits in atomization of a spray fluid through the restricted opening for directing the fluid.

It would have been a further obvious matter of design choice to provide for a standard deviation of less than 0.05 mm and preferably less than 0.02 mm for the offset between the central axis of the insert relative to the central axis of the expulsion channel, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it appears that the invention would perform equally well without an offset between the insert and expulsion channel where offsetting the central axis' would provide a benefit that would ensure a spray would be directed past the projections through the expulsion channel.

### ***Response to Arguments***

#### **Objection to Drawings**

Examiner withdraws the drawing objection to reference number "5" where Applicant has properly designated the arrow to point to the expulsion channel. However, Examiner is maintaining the objection to the drawings to the "set of spray head

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assemblies" and "end wall" not being shown. Examiner contends that if the features are shown in the Figures then it would not be difficult to point to where the portions of the present invention are located. Examiner cannot find the "set of spray heads" in the Figures. Examiner also cannot logically understand Applicant's arguments to the end wall being shown in Figure 1 due to the spray profile being shown in Figure 1.

Examiner objected to the drawings because Applicant's argument is not necessarily true and again requests that Applicant show where the end wall is located.

#### **Objection to Specification**

Examiner withdraws the objection to the specification in view of Applicant's showing of where the disclosure provides antecedent basis for the at least one projection (see pages 9-10 of arguments).

#### **Claim Objections**

The objection to Claim 13 is withdrawn in view of Applicant's amendment to Claim 13 that adds the word "channel" after "expulsion" in line 4.

**Rejection under 35 USC § 112**

Applicant's arguments, see amendment to Claims, filed 10/05/2009, with respect to the rejection of Claim 2 have been fully considered and are persuasive. The rejection of Claim 2 has been withdrawn in view of Applicant's amendment that deletes the words "and preferably three" thereby eliminating the range in range language previously present.

**Rejection under 35 USC § 102**

Applicant's arguments filed 10/05/2009 have been fully considered but they are not persuasive. Examiner cannot agree with Applicant's assertions that Marelli et al does not teach where the centering means is in close proximity to the spray profile. Examiner notes to Applicant that "proximity" is a relative term and the spray profile of Marelli et al is in proximity to the "9" where the centering means abuts against (see where "3" abuts with "9" in Figure 3. See also "9" and the close proximity to spray profile as mentioned in the rejection above in Figure 2.). For these reasons, Examiner is maintaining the rejection of Claims 1-4, 8 and 10-19.

**Rejection under 35 USC § 103**

Applicant's arguments filed 10/05/2009 have been fully considered but they are not persuasive. The claims of the present invention are not allowable by virtue of

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Applicant's arguments under 35 USC § 102. Examiner's reasoning is the same for the response to arguments mentioned above. .

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trevor McGraw whose telephone number is (571) 272-7375. The examiner can normally be reached on Monday-Friday (2nd & 4th Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/T. E. M./  
Examiner, Art Unit 3752

/Len Tran/  
Supervisory Patent Examiner, Art Unit 3752